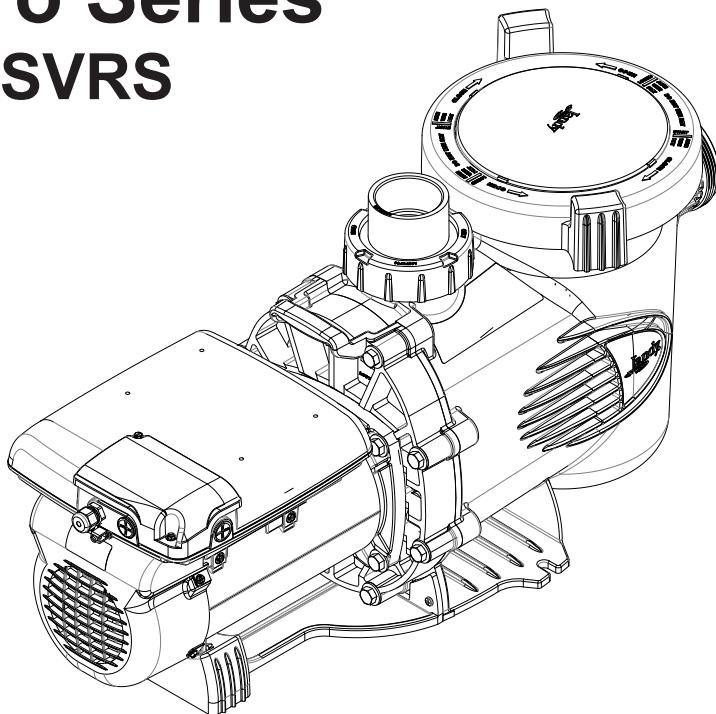




# INSTALLATION AND OPERATION MANUAL

ENGLISH | FRANÇAIS | ESPAÑOL

## Jandy Pro Series ePump™ + SVRS



### ⚠ WARNING

Safety Vacuum Release System (or SVRS) may prevent full body entrapment; SVRS does not protect against hair entrapment, mechanical entrapment, limb entrapment and/or evisceration.

**FOR YOUR SAFETY** - This product must be installed and serviced by a contractor who is licensed and qualified in pool equipment by the jurisdiction in which the product will be installed where such state or local requirements exist. The maintainer must be a professional with sufficient experience in pool equipment installation and maintenance so that all of the instructions in this manual can be followed exactly. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation will void the warranty.



Improper installation and/or operation can create unwanted electrical hazard which can cause serious injury, property damage, or death.

**ATTENTION INSTALLER** - This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

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### EQUIPMENT INFORMATION RECORD

**DATE OF INSTALLATION** \_\_\_\_\_

**INSTALLER INFORMATION** \_\_\_\_\_

**INITIAL PRESSURE GAUGE READING (WITH CLEAN FILTER)** \_\_\_\_\_

**PUMP MODEL** \_\_\_\_\_

**HORSEPOWER** \_\_\_\_\_

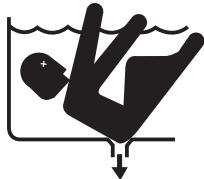
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# Section 1. IMPORTANT SAFETY INSTRUCTIONS

## READ AND FOLLOW ALL INSTRUCTIONS

### 1.1 Safety Instructions

All electrical work must be performed by a licensed electrician and conform to all national, state, and local codes. When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:



#### **⚠ WARNING**

**RISK OF SUCTION ENTRAPMENT HAZARD, WHICH, IF NOT AVOIDED, CAN RESULT IN SERIOUS INJURY OR DEATH.** Do not block pump suction, as this can cause severe injury or death. Do not use this pump for wading pools, shallow pools, or spas containing bottom drains, unless the pump is connected to at least two (2) functioning suction outlets. Drain covers must be certified to the latest published edition of ANSI®/ASME® A112.19.8 or its successor standard, ANSI/APSP-16. It is absolutely critical that the suction plumbing be installed in accordance with the latest national and local codes for swimming pools.

#### **⚠ WARNING**

A hydrostatic valve installed in the suction piping of the pool circulation system can increase the time that high vacuum is present at the suction outlet, even if an SVRS device is installed in the system.

**IN ORDER TO PREVENT RISK OF SERIOUS INJURY OR DEATH.** Do NOT use suction check valves and/or hydrostatic valves with this pump.

- The SVRS feature of this pump may not operate effectively when the pump is installed more than 3 feet above or below the water level of the pool. Therefore, to reduce the risk of suction entrapment, which can result in serious injury or death, DO NOT INSTALL THE PUMP MORE THAN 3 FEET ABOVE OR 3 FEET BELOW the water level of the pool/spa.

#### **⚠ WARNING**

This pump has a motor equipped with a Safety Vacuum Release System (SVRS) that complies with ANSI/ASME A112.19.17. SVRS helps prevent full-body entrapment on drains due to suction. In some pools, if a person's body covers the suction outlet (drain), they can be trapped by suction. If this occurs, a SVRS can act to release the suction to help prevent drowning.

SVRS does NOT protect against other suction-outlet (drain) hazards such as:

- Hair entanglement - hair tangled/caught in suction-outlet
- Mechanical Entrapment -- jewelery, swimsuits, fingers, etc... caught in suction outlet.
- Limb Entrapment - arms or legs trapped in uncovered or broken drains.
- Evisceration/Disembowelment - suction force at suction-outlet can pull lower intestine out of rectum, causing irreversible damage.

#### **⚠ WARNING**

Properly designed and installed suction-outlet covers help protect against all of the above hazards. This SVRS pump is NOT a substitute for a properly designed and installed suction-outlet cover. All suction outlets must be equipped with their designated covers and the complete Suction Outlet Fitting Assembly (SOFA) must be in good condition and must be certified and marked to indicate compliance with ANSI/ASME A112.19.8, or its successor standard ANSI/APSP-16, the standard for Suction Fittings for use in Swimming Pools, Wading Pools, Spas, and Hot Tubs.

#### **⚠ WARNING**

Prior to bather use, the ePump + SVRS should be tested for proper functionality in the following manner. A ball, butterfly, or sliding gate valve shall be installed within 2 ft. (0.6m) upstream from the ePump + SVRS (between the ePump + SVRS and the protected suction outlet), or a test mat shall be used to cover the suction outlet to simulate an entrapment event. There shall be three simulated entrapment tests conducted to verify proper adjustment and operation of the device.

**⚠ WARNING**

The SVRS feature on this pump is inactive up to ten (10) minutes after power up. During this period, the pump does not monitor blocked suction or discharge system condition. Keep bathers out of the pool when SVRS is not active, such as during the first ten (10) minutes after power up.

**⚠ WARNING**

To reduce the risk of injury, do not permit children and/or adults not familiar and experienced with the operation of swimming pool pumps to use this product unless they are closely supervised at all times.

**⚠ WARNING**

**RISK OF ELECTRIC SHOCK, FIRE, PERSONAL INJURY, OR DEATH.** Always disconnect power to the pump at the circuit breaker and remove the RS-485 communication cable from the pump before servicing the pump.

**⚠ WARNING**

To reduce the risk of property damage or injury, do not attempt to change the backwash (multiport, slide, or full flow) valve position with the pump running.

**⚠ WARNING**

Zodiac® Pumps are powered by a high-voltage electric motor and must be installed by a licensed or certified electrician or a qualified swimming pool service technician.

**⚠ WARNING**

Due to the potential risk of fire, electric shock, or injuries to persons, Zodiac Pumps must be installed in accordance with the National Electrical Code® (NEC®), all local electrical and safety codes, and the Occupational Safety and Health Act (OSHA). Copies of the NEC may be ordered from the National Fire Protection Association, 470 Atlantic Ave., Boston, MA 02210, or from your local government inspection agency.

**⚠ WARNING**

**RISK OF ELECTRIC SHOCK, FIRE, PERSONAL INJURY, OR DEATH.** Never open the drive motor enclosure. Connect only to a branch circuit that is protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a GFCI. Make sure a GFCI is provided by the installer and is tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the pump without the test button being pushed, a ground current is flowing, indicating the possibility of electrical shock. Do not use the device. Disconnect the device and have the problem corrected by a qualified service representative before using.

**⚠ WARNING**

When installed in a location other than single-family dwellings, the National Electrical Code (NEC, NFPA-70) requires the installation of a clearly labeled Emergency Shutoff Switch, which shall be readily accessible to the occupants of the pool/spa. Such a switch shall be within sight but at least 5 feet (1.52m) from the pool or spa.

**⚠ WARNING**

Incorrectly installed equipment may fail, causing severe injury or property damage.

**⚠ WARNING**

- Do not connect system to an unregulated city water system or other external source of pressurized water producing pressures greater than 35 PSI.
- Trapped air in the system can cause the filter lid to be blown off, which can result in death, serious personal injury, or property damage. Be sure all air is out of the system before operating.

**⚠ WARNING**

The Jandy Pro Series ePump + SVRS is capable of generating system pressures up to 50 psi. Installers must ensure that all system components are rated to withstand at least 50 psi. Over pressurizing the system can result in catastrophic component failure or property damage.

**⚠ WARNING**

To minimize risk of severe injury or death, the filter and/or pump should not be subjected to the piping system pressurization test.

Local codes may require the pool piping system to be subjected to a pressure test. These requirements are generally not intended to apply to the pool equipment, such as filters or pumps.

Zodiac® pool equipment is pressure tested at the factory.

If, however, the WARNING cannot be followed and pressure testing of the piping system must include the filter and/or pump, BE SURE TO COMPLY WITH THE FOLLOWING SAFETY INSTRUCTIONS:

- Check all clamps, bolts, lids, lock rings, and system accessories to ensure they are properly installed and secured before testing.
- **RELEASE ALL AIR** in the system before testing.
- Water pressure for test must NOT EXCEED 35 PSI.
- Water temperature for test must NOT EXCEED 100°F (38°C).
- Limit test to 24 hours. After test, visually check system to be sure it is ready for operation.

**Notice:** These parameters apply to Zodiac equipment only. For non-Zodiac equipment, consult the equipment manufacturer.

**⚠ WARNING**

Chemical spills and fumes can weaken pool/spa equipment. Corrosion can cause filters and other equipment to fail, resulting in severe injury or property damage. Do not store pool chemicals near your equipment.

**⚠ CAUTION**

**Do not start pump dry!** Running the pump dry for any length of time will cause severe damage and will void the warranty.

**CAUTION**

- This pump is for use with permanently installed pools and may also be used with hot tubs and spas, if so marked. Do not use with storable pools. A permanently installed pool is constructed in or on the ground or in a building, such that it cannot be readily disassembled for storage. A storable pool is constructed so that it may be readily disassembled for storage and reassembled to its original integrity.
- Do not install beneath the skirt of a hot tub. The pump requires adequate ventilation to maintain air temperature at less than the maximum ambient temperature rating listed on the motor rating plate.
- For Canadian installation, this pump carries a Type 3R enclosure rating and therefore is not intended for installation in areas subjected to windblown dust.
- Install the pump such that any disconnecting means and/or junction boxes for power connection are within site of the pump and at least five (5) feet from the inside wall of the pool and spa. Canadian installations require a minimum of three (3) meters from the pool water.
- Refer to the "Bonding" instructions in section 3.2 of this manual and consult local & national codes for using a No. 8 AWG or larger conductor to properly bond the pump motor to other metal components and electrical equipment in the vicinity of the pool/spa.

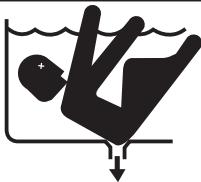
**⚠ WARNING**

The Jandy Pro Series ePump + SVRS has been designed to operate with Zodiac® control systems. Operating the pump with other manufacturers' controllers may cause software failure of the pump, drive or other system components. This failure can result in severe personal injury (i.e., failure of the SVRS system, electrical shock) or death.

**⚠ DANGER**

**Entrapment Avoidance Notice:** Drain covers must be certified to the latest published edition of ANSI®/ASME® A112.19.8 or its successor standard, ANSI/APSP-16. These covers should be inspected regularly and replaced if cracked, broken or older than the design lifetime indicated on them by the manufacturer. The maximum possible flow rate of this pump should be less than or equal to the maximum approved flow rate indicated on the suction outlet cover by the manufacturer. THE USE OF UNAPPROVED COVERS OR ALLOWING USE OF THE POOL OR SPA WHEN COVERS ARE MISSING, CRACKED OR BROKEN CAN RESULT IN BODY OR LIMB ENTRAPMENT, HAIR ENTANGLEMENT, EVISCERATION AND DEATH.

## 1.2 Pool Pump Suction Entrapment Prevention Guidelines

**⚠ WARNING**

**SUCTION HAZARD.** Can cause serious injury or death. Do not use this pump for wading pools, shallow pools, or spas containing bottom drains, unless pump is connected to at least two (2) functioning suction outlets.

**⚠ WARNING**

Pump suction is hazardous and can trap and drown or disembowel bathers. Do not use or operate swimming pools, spas, or hot tubs if a suction outlet cover is missing, broken, or loose. The following guidelines provide information for pump installation that minimizes risk of injury to users of pools, spas, and hot tubs:

**Entrapment Protection** - The pump suction system must provide protection against the hazards of suction entrapment.

**Suction Outlet Covers** - All suction outlets must have correctly installed, screw-fastened covers in place. All suction outlet (drain) covers must be properly maintained. They must be replaced if cracked, broken, or missing. Drain covers must be listed/certified to the latest published edition of ANSI/ASME A112.19.8 or its successor standard, ANSI/APSP-16. The pool must be shut down and bathers must be restricted from entering the pool until any cracked, broken, or missing drain covers are replaced.

**Number of Suction Outlets Per Pump** - Provide at least two (2) hydraulically-balanced suction outlets, with covers, as suction outlets for each circulating pump suction line. The centers of the suction outlets (suction outlets) on any one (1) suction line must be at least three (3) feet apart, center to center. See Figure 1.

The system **must** be built to include at least two (2) suction outlets (drains) connected to the pump whenever the pump is running. However, if two (2) suction outlets run into a single suction line, the single suction line may be equipped with a valve that will shut off both suction outlets from the pump. The system shall be constructed such that it shall not allow for separate or independent shutoff or isolation of each drain. See Figure 1.

Additional pumps can be connected to a single suction line as long as the requirements above are met.

# SAVE THESE INSTRUCTIONS

**WARNING**

**Water Velocity** - The maximum water velocity through the suction outlet assembly and its cover for any suction outlet must not exceed the suction outlet assembly and its cover's maximum design flow rate. The suction outlet (drain) assembly and its cover must comply with the latest version of ANSI®/ASME® A112.19.8, the standard for Suction Fittings For Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs, or its successor standard, ANSI/ASME APSP-16.

**Testing and Certification** - Suction outlet covers must have been tested by a nationally recognized testing laboratory and found to comply with the latest published edition of ANSI/ASME A112.19.8 or its successor standard, ANSI/APSP-16, the standard for *Suction Fittings For Use in Swimming pools, Wading Pools, Spas, and Hot Tubs*.

**Fittings** - Fittings restrict flow; for best efficiency use fewest possible fittings (but at least two (2) suction outlets).

Avoid fittings that could cause an air trap.

Pool cleaner suction fittings must conform to applicable International Association of Plumbing and Mechanical Officials (IAPMO) standards.

### 1.3 VIRGINIA GRAEME BAKER POOL AND SPA SAFETY ACT

The Virginia Graeme Baker Pool and Spa Safety Act raises certain new requirements on owners and operators of public swimming pools and spas.

Public pools or spas constructed on or after December 20, 2008, shall utilize:

- (A) No submerged suction outlets, a gravity drainage system with ASME/ANSI cover(s), one or more unblockable outlets; or
- (B) A multiple suction outlet system without isolation capability with suction outlet covers that meet ASME/ANSI A112.19.8 Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs and either:
  - (i) A safety vacuum release system (SVRS) meeting ASME/ANSI A112.19.17 Manufactured Safety Vacuum Release Systems (SVRS) for Residential and Commercial Swimming Pool, Spa, Hot Tub, and Wading Pool Suction Systems and/or ASTM F2387 Standard Specification for Manufactured Safety Vacuum Release Systems (SVRS) for Swimming Pools, Spas and Hot Tubs or
  - (ii) A properly designed and tested suction-limiting vent system or
  - (iii) An automatic pump shut-off system.

Public pools and spas construction prior to December 20, 2008, with a single submerged suction outlet shall use a suction outlet cover that meets ASME/ANSI A112.19.8 and either:

- (A) A multiple suction outlet system without isolation capability, or
- (B) A safety vacuum release system (SVRS) meeting ASME/ANSI A112.19.17 and/or ASTM F2387, or
- (C) A properly designed and tested suction-limiting vent system, or
- (D) An automatic pump shut-off system, or
- (E) Disabled submerged outlets, or
- (F) Suction outlets shall be reconfigured into return inlets.

**For more information about the Act, contact the Consumer Product Safety Commission at 301.504.7908 or visit [www.cpsc.gov](http://www.cpsc.gov).**

## Section 2. General Description

### 2.1 Introduction

This manual contains information for the proper installation, operation, and maintenance of Jandy Pro Series ePump + SVRS (Safety Vacuum Release System) Series variable-speed pump. Procedures in this manual must be followed exactly. To obtain additional copies of this manual, contact Zodiac® Technical Support at 800.822.7933 or visit our website at [www.zodiacpoolsystems.com](http://www.zodiacpoolsystems.com). For address information, see the back cover of this manual.

### 2.2 Description

The ePump + SVRS is a variable-speed pump that can be run from 1050 RPM to 3450 RPM.

**NOTE** Some controllers may display speeds lower than 1050 RPM even though the pump only operates between 1050 RPM and 3450 RPM.

When connected to the ePump + SVRS controller (JEP-R), up to eight (8) speed settings may be programmed and recalled. This allows you to select the most appropriate speed for your application. Even more versatile programming is possible when you use a Zodiac AquaLink® RS controller.

Jandy Pro Series ePump + SVRS is designed to meet the needs of today's more hydraulically demanding pool equipment. The pump housing, backplate, diffuser, impeller, and hair and lint pot (filter basket) are all made from high quality thermoplastic materials. These materials were chosen for their strength and corrosion resistance.

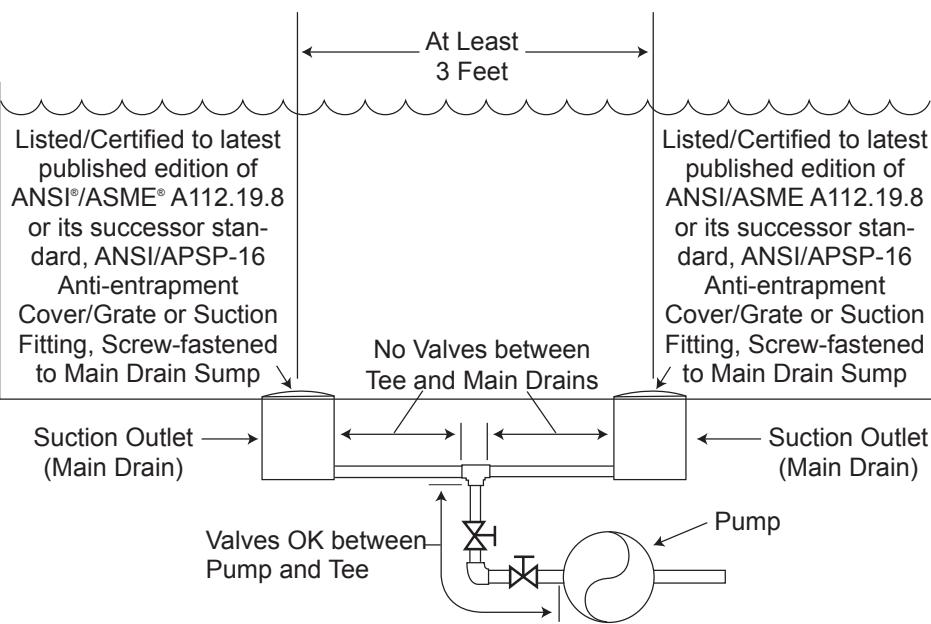
The pump is driven by an electric motor directly attached to the pump impeller. As the electric motor turns, it causes the impeller to turn, which forces water to flow through the pump. The water flows through the pump inlet and then into the filter basket. The basket assembly pre-strains/traps large particles. The water then enters the center of the pump housing, flows through the impeller into the diffuser, and flows out the pump discharge port.

## Section 3. Installation Information

### 3.1 Plumbing

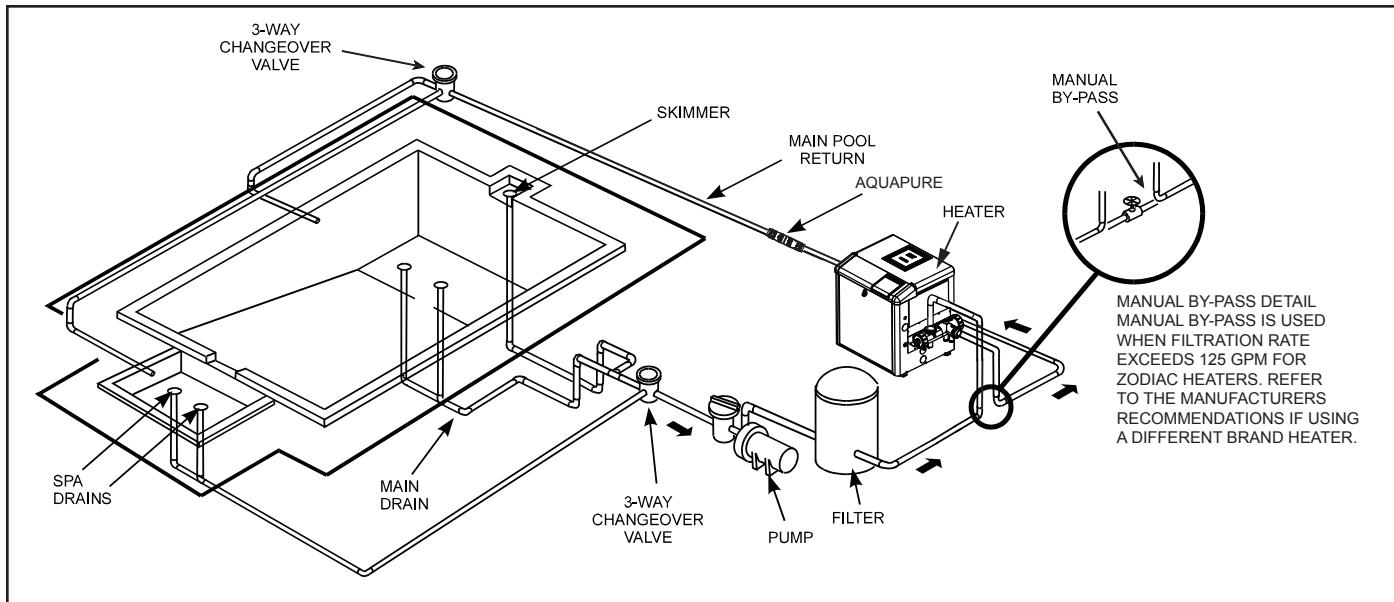
#### Preparation Information

- Upon receipt of the pump, check the carton for damage. Open the carton and check the pump for concealed damage, such as cracks, dents or a bent base. If damage is found, contact the shipper or distributor where the pump was purchased.
- Inspect the contents of the carton and verify that all parts are included. See *Section 7.1, Replacement Parts List and Exploded View*.



**WARNING:** Suction check valves and hydrostatic valves should not be used with this pump.

Figure 1. Number of Suction Outlets Per Pump

**Figure 2. Typical Piping Installation**

## Pump Location

### CAUTION

For Canadian installation, this pump carries a Type 3R enclosure rating and therefore is not intended for installation in areas subjected to windblown dust.

1. Zodiac® recommends installing the pump within one (1) foot above water level. Refer to Figure 2 for a typical installation. The pump should not be elevated more than three (3) feet above or below the water level of the pool.

### ⚠ WARNING

This Safety Vacuum Release System (SVRS) device is NOT compatible with the installation of check valves. Suction check valves and hydrostatic valves **should not be used** with this pump.

The SVRS feature of this pump may not operate effectively when the pump is installed more than 3 feet above or below the water level of the pool. Therefore, to reduce the risk of suction entrapment, which can result in serious injury or death, DO NOT INSTALL THE PUMP MORE THAN 3 FEET ABOVE OR 3 FEET BELOW the water level of the pool/spa.

2. If the pump is located below water level, isolation valves must be installed on both the suction and return lines to prevent back flow of pool water during any routine or required servicing.
3. Install the pump such that any disconnecting means and/or junction boxes for power connection are within site of the pump and at least five (5) feet horizontally from the edge of the pool and/or spa. Choose a location that will minimize turns in the piping.

**NOTE** In Canada the minimum distance maintained from the edge of the pool and/or spa as noted above must be 3m (10 feet), as required by the Canadian Electrical Code (CEC, CSA C22.1).

4. The pump must be placed on a solid foundation that will not vibrate. To further reduce the possibility of vibration noise, bolt the pump to the foundation, or place it on a rubber mat.

**NOTE** Zodiac recommends bolting the pump directly to the foundation.

5. The pump foundation must have adequate drainage to prevent the motor from getting wet. Protect the pump from the rain and sun.
6. Proper ventilation is required for the pump to operate normally. All motors generate heat that must be removed by providing proper ventilation.
7. Provide access for future services by leaving a clear area around the pump. Allow plenty of space above the pump to remove the lid and filter basket for cleaning.
8. If the equipment is in a potentially dark area, provide adequate lighting.

## Pipe Sizing

### Suction Pipe

The pipe size on the suction side will be 2.5 to 3 inches.

### Discharge Pipe

The pipe size on the discharge side will be 2 to 3 inches.

**NOTE** All pipe sizes are able to withstand the pressures the pump will deliver, but not necessarily the flow. If the suction pipe is too small for the pump, or is elevated above water, the maximum gallons per minute (GPM) may not be delivered. If this happens, the pump will develop a pocket of air (cavitation) that makes noise. This may shorten the life of the pump.

## Installation Recommendations

- To help prevent difficulty in priming, install the suction pipe without high points (above inlet of pump - inverted "U"s, commonly referred to in plumbing as an airlock) that can trap air. For installations of equipment up to 100 feet from the water, refer to Table 1, the pipe sizing chart. For installations of equipment more than 100 feet from the water, the recommended pipe size must be increased to the next size.

**Table 1. Pipe Sizing Chart for Schedule 40 PVC**

Pipe Size	Maximum Flow Suction (6 feet per second)	Maximum Flow Discharge (8 feet per second)
2"	62 GPM (235 LPM)	85 GPM (322 LPM)
2½"	88 GPM (333 LPM)	120 GPM (454 LPM)

**NOTE** The ePump + SVRS shall only be operated in the flow range of 27 to 155gpm. The pipe size on the discharge side will be 2 to 3 inches and on the suction side it will be 2.5 to 3 inches.

- ePump + SVRS comes equipped with unions on both the suction and discharge ports. This feature simplifies installation and service and eliminates the possibility of leaks at threaded adapters.
- The ePump + SVRS must be connected to at least two (2) hydraulically-balanced suction outlets (suction outlets) for each pool pump suction line. Refer to Figure 2. Each drain must be provided with covers that are listed or certified to the latest published edition of ANSI®/ASME® A112.19.8 or its successor standard, ANSI/APSP-16. The suction outlets of the suction outlets must be at least three (3) feet apart or at different planes. The suction outlets can be a drain and skimmer, two (2) drains, two (2) skimmers, or a skimmer with an equalizer line installed. For additional details and guidelines, refer to ANSI/APSP 7, the standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Catch Basins. Check the local codes for proper installation requirements. Applicable local codes will take precedence over other codes.
- The piping must be well supported and not forced together where it will experience constant stress.

## WARNING

To prevent full-body entrapment, the system must be built so it cannot operate with the pump drawing water from only one (1) suction outlet. At least two (2) suction outlets must be connected to the pump when it is in operation. However, if two (2) suction outlets run into a single suction line, the single suction line may be equipped with a valve that will simultaneously shut off both suction outlets from the pump.

- Always use properly sized valves. Zodiac® Diverter Valves and Zodiac Ball Valves typically have the best flow capabilities.
  - Use the fewest fittings possible. Each additional fitting has the effect of moving the equipment farther away from the water.
- NOTE** If more than ten (10) suction fittings are needed, the pipe size must be increased.
- Every new installation must be pressure tested according to local codes.

## 3.2 Electrical Installation

### Voltage Checks

The correct voltage, as specified on the pump data plate, is necessary for proper performance and long motor life. Incorrect voltage will decrease the pump's ability to perform and could cause overheating, reduce the motor life, and result in higher electric bills.

It is the responsibility of the electrical installer to provide data plate operating voltage to the pump by ensuring proper circuit sizes and wire sizes for this specific application.

The National Electrical Code® (NEC®, NFPA-70) requires all pool pump circuits be protected with a Ground Fault Interrupter (GFCI). Therefore, it is also the responsibility of the electrical installer to ensure that the pump circuit is in compliance with this and all other applicable requirements of the National Electrical Code (NEC) and any other applicable installation codes.

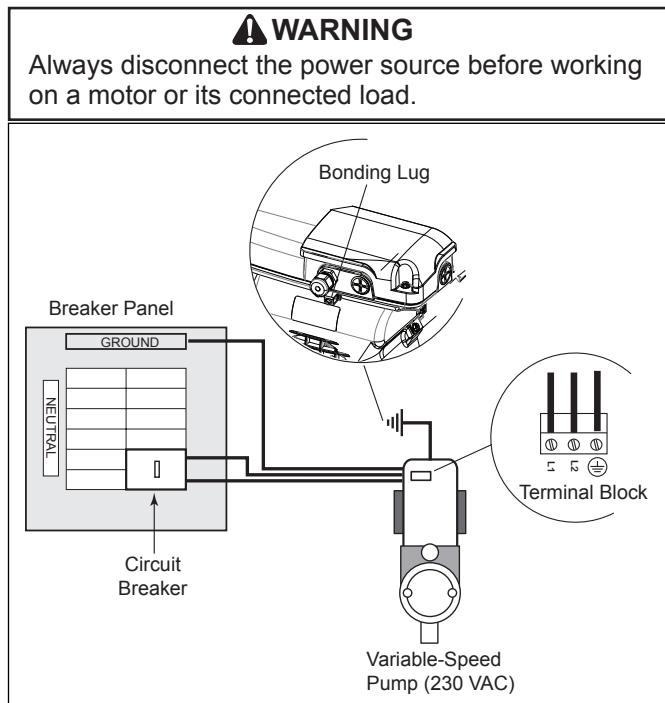
## CAUTION

Failure to provide data plate voltage (within 10%) during operation will cause the motor to overheat and void the warranty.

### Bonding

- In addition to being properly grounded as described below in *Electrical Wiring* section, and in accordance with the requirements of the National Electrical Code (NEC), or in Canada the Canadian Electrical Code (CEC), the pump motor must be bonded to all metal parts of the swimming pool, spa or hot tub structure and to all electrical components and equipment associated with the pool/spa water circulation system.
- The bonding must be accomplished by using a

solid copper conductor, No. 8 AWG or larger. In Canada No. 6 AWG or larger must be used. Bond the motor using the external bonding lug provided on the motor (See figure 3).



**Figure 3. Bonding the Motor**

#### ⚠ WARNING

In order to avoid the risk of property damage, severe personal injury, and/or death, make sure that the control switch, time clock, or control system is installed in an accessible location, so that in the event of an equipment failure or a loose plumbing fitting, the equipment can be easily turned off.

#### CAUTION

The pump must be permanently connected to a dedicated electrical circuit. No other equipment, lights, appliances, or outlets may be connected to the pump circuit, with the exception of devices that may be required to operate simultaneously with the pump, such as a chlorinating device or heater.

### Electrical Wiring

1. The pump motor must be securely and adequately grounded using the green screw provided. Ground before attempting to connect to an electrical power

supply. Do not ground to a gas supply line.

2. Wire size must be adequate to minimize voltage drop during the start-up and operation of the pump. See Table 2 for suggested wire sizes.
3. Insulate all connections carefully to prevent grounding or short-circuits. Sharp edges on terminals require extra protection. For safety, and to prevent entry of contaminants, reinstall all conduit and terminal box covers. Do not force connections into the conduit box.

**NOTE** Since the pump is operated by either an ePump + SVRS controller (JEP-R), an AquaLink® RS controller, an AquaLink Pool Digital Assistant (PDA), or an AquaLink Z4, the pump will not be turned on until it is turned on with one of these controllers.

### Installing the Controller

#### ⚠ WARNING

The Jandy Pro Series ePump + SVRS has been designed to operate with Zodiac® control systems. Operating the pump with other manufacturers' controllers may cause software failure of the pump, drive or other system components. This failure can result in severe personal injury (ie. failure of the SVRS system, electrical shock) or death.

The ePump + SVRS can be operated by one of four (4) controllers: the ePump + SVRS controller (JEP-R), the AquaLink RS controller (Rev O or later), the AquaLink PDA (Rev 4.0 or later), or the AquaLink Z4.

#### To install the ePump + SVRS controller:

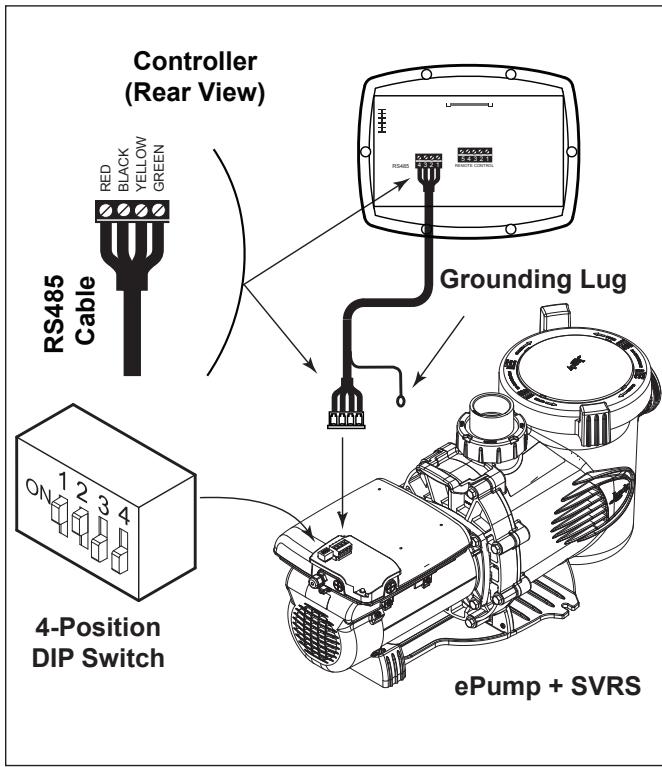
**NOTE** The ePump + SVRS controller part no. is JEP-R.

1. Remove power from the ePump + SVRS by disconnecting the high voltage lines or by opening any breaker to which the ePump + SVRS power is connected.

**Table 2. Recommended Wire Size and Overcurrent Protection for ePumps**

MINIMUM WIRE SIZE AND OVERCURRENT PROTECTION FOR ePUMP SERIES PUMPS*		
Distance from Sub-panel	Inverse - Time Circuit Breaker or Branch Fuse AMPS Class:CC, G, H, J, K, RK, or T 230 VAC	0 - 150 Feet (0-45 meters)
Model	JEP2.0SVRS	Voltage 208-230 VAC #12 solid copper minimum
	20A Max	

\*Assumes three (3) copper conductors in a buried conduit and 3% maximum voltage loss in branch circuit. All National Electrical Code® (NEC®) and local codes must be followed. Table shows minimum wire size and branch fuse recommendations for typical installation per NEC.



**Figure 4. Wiring ePump + SVRS Controller (JEP-R) to ePump**

**⚠ WARNING**  
**ELECTRICAL SHOCK HAZARD**

Turn off all switches and the main breaker in the ePump electrical circuit before starting the procedure. Failure to comply may cause a shock hazard, resulting in severe personal injury or death.

2. Remove the cover of the ePump + SVRS junction box and feed the RS-485 cable into the fitting.
3. Unplug the RS-485 connector from the ePump + SVRS.
4. Attach the four (4) wires in the RS-485 cable to the RS-485 connector. Match the wire colors with the positions on the connector: 1- red, 2- black, 3- yellow, and 4- green. See Figure 4.
5. Insert the RS-485 connector back into the ePump + SVRS.
6. Slide dip switches 1 and 2 up, so they are in the ON position, and slide switches 3 and 4 down, so they are in the OFF position. See Figures 4.
7. Connect the other end of the cable to the JEP-R controller. Match the colors of the wires with the appropriate connector positions, as described in Step 4.
8. Restore power to the ePump + SVRS and verify the operation of the ePump + SVRS (JEP-R) controller.
9. Refer to the ePump + SVRS Controller Owner's Manual, H0412200, to operate the pump.

**To install an AquaLink® RS controller (Rev O or later), an AquaLink PDA (Rev 4.0 or later), or AquaLink Z4:**

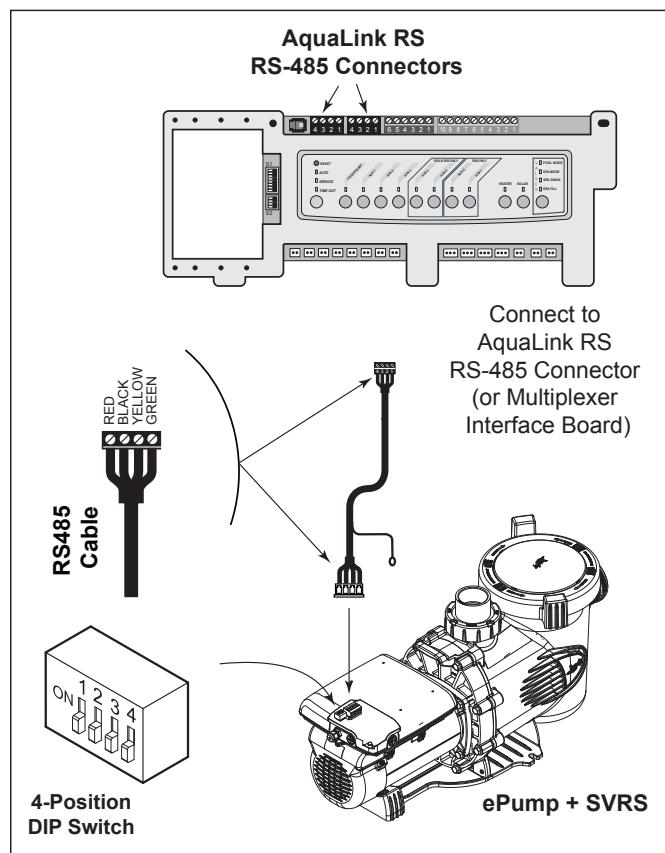
1. Remove power from the ePump + SVRS by disconnecting the high voltage lines or by opening any breaker to which the ePump + SVRS power is connected.
2. Remove the cover of the ePump + SVRS junction box and feed the RS-485 cable into the fitting.

**⚠ WARNING**

**ELECTRICAL SHOCK HAZARD**

Turn off all switches and the main breaker in the ePump electrical circuit before starting the procedure. Failure to comply may cause a shock hazard, resulting in severe personal injury or death.

3. Unplug the RS-485 connector from the ePump + SVRS and attach the four (4) wires in the RS-485 cable to the RS-485 connector. Match the wire colors with the connector positions as follows: 1-red, 2-black, 3-yellow, and 4-green. See Figure 5.
4. Insert the RS-485 connector back into the ePump + SVRS.
5. Slide dip switches 1 and 2 down, so they are in the OFF position. See Figure 5.



**Figure 5. Wiring AquaLink RS Controller, AquaLink PDA or AquaLink Z4 to ePump**

6. Select the desired address(es) for the ePump + SVRS(s) by setting dip switches 3 and/or 4, as shown in *Section 3.3, ePump + SVRS Dip Switch Settings*.
7. Connect the other end of the cable to an RS-485 connector on the AquaLink (or multiplexer interface board), matching wire colors with connector positions, as described in Step 3.
8. Restore power to the ePump + SVRS and verify the operation of the controller.
9. Refer to the appropriate control manual to operate the pump. ePump + SVRS Controller Owner's manual (H0412200), AquaLink® RS Owner's Manual (6593), AquaLink PDA Owner's Manual (H0572300), or AquaLink Z4 Owner's Manual (H0386600).

### 3.3 ePump + SVRS Dip Switch Settings

As shown in Figures 4 and 5, the 4-position dip switch is located at the rear of the ePump + SVRS. This dip switch serves two (2) functions: it selects the pump address, and it determines what type of controller will be used with the pump. The tables below show the dip switch settings.

Switch 1	Switch 2	Controller
OFF	OFF	AquaLink RS, AquaLink PDA or AquaLink Z4
ON	ON	ePump + SVRS Controller (JEP-R)

Switch 3	Switch 4	Pump Address
OFF	OFF	PUMP 1
ON	OFF	PUMP 2
OFF	ON	PUMP 3
ON	ON	PUMP 4

### 3.4 Auxiliary (Aux) Load Operation

The Jandy Pro Series ePump + SVRS is equipped with a terminal bar that provides user access to a built-in Auxiliary Load relay contact. This normally-open, dry contact is activated under certain operating conditions and is primarily intended to be used to control external devices that require system water flow for proper functioning, such as heaters, booster pumps, salt water chlorinators, etc.

See Figures 6,7 and 8 for compartment's location details. An access cover with Phillips-head screw must be removed before proceeding.

### Aux Load Connection Requirements

#### ! WARNING

##### ELECTRICAL SHOCK HAZARD

Due to the potential risk of fire, electric shock, or injuries to persons, Zodiac® Pumps must be installed in accordance with the National Electrical Code® (NEC®), all local electrical and safety codes, and the occupational Safety and Health Act (OSHA). Copies of the NEC may be ordered from the National Protection Association, 470 Atlantic Ave., Boston, MA 02210, or from your local government inspection agency.

In Canada, Zodiac Pumps must be installed in accordance with the Canadian Electrical Code (CEC).

**Note:** The Auxiliary Load relay contacts are rated at 230V/11A RMS. Please ensure the requirements of the equipment to be connected to the Auxiliary Load **do not exceed this rating**.

### Wiring Diagram for 230V Aux Load, Shared Power Source

**Note:** In this configuration, it is important to verify the shared power source is adequately rated to service both the pump and the auxiliary equipment.

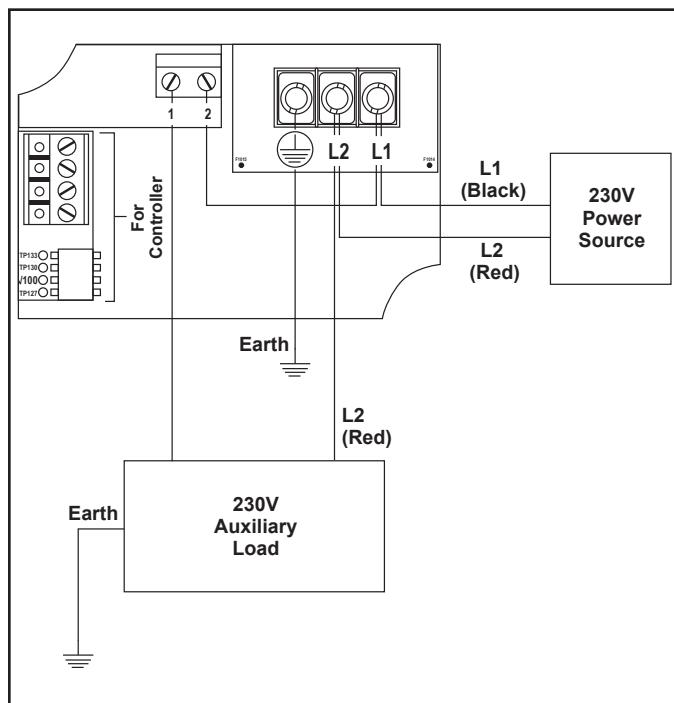
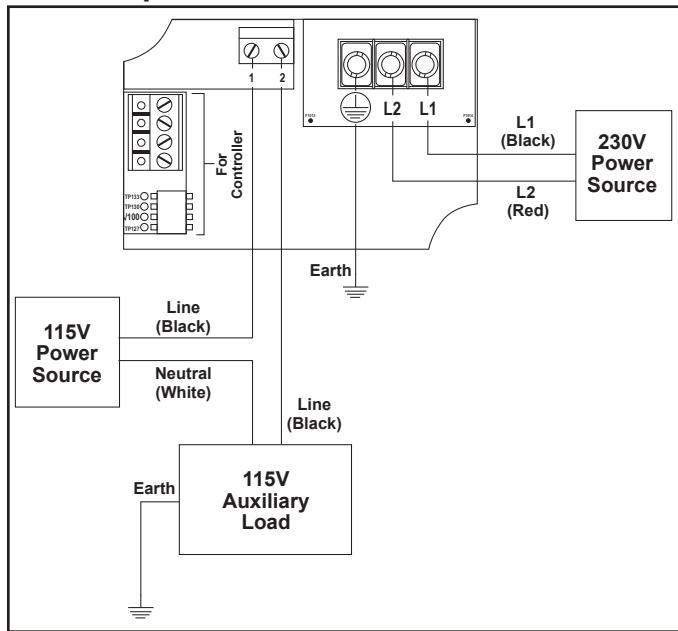


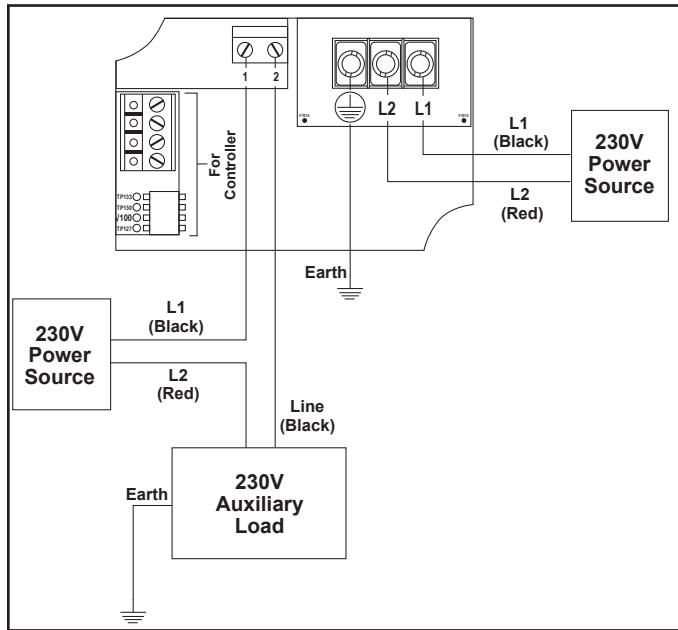
Figure 6. 230V Aux Load, Shared Power Source Wiring Diagram

## Wiring Diagram for 115V Aux Load, Separate Power Sources



**Figure 7.** 115V Aux Load, Separate Power Sources Wiring Diagram

## Wiring Diagram for 230V Aux Load, Separate Power Source



**Figure 8.** 230V Aux Load, Separate Power Sources Wiring Diagram

## Aux Load Operation Characteristics

Aux Load relay contact activation is speed-dependent, and behaves as follows:

## Contact Closure

From a stopped condition, there is a three-minute delay before the Aux Load contact is closed when the motor speed reaches and maintains a speed of at least 1725 RPM.

From a running condition at below 1725 RPM, there is a five-second delay before the Aux Load contact is closed when the motor speed reaches and maintains a speed of at least 1725 RPM.

## Contact Opening

If the pump speed is below 1725 RPM, the Aux Load contact is opened. Contact openings are always immediate.

### 3.5 Pressure Testing

All Jandy Pro Series ePump + SVRS pumps come with an additional disposable o-ring for pressure testing. This is the blue pressure test o-ring. See Figures 9 and 10.

#### CAUTION

Do not open the pump lid before pressure testing, because the blue pressure test o-ring may fall out. If this happens, you will need to place it back on the lid.

If you have not opened the pump lid, skip to *Section 3.6, Conducting Pressure Test*.

### Replace Blue Pressure Test O-ring if Necessary

If you open the pump lid before conducting the pressure test, the blue o-ring will probably fall out. If this happens, you will need to install it on the lid again before conducting pressure testing.

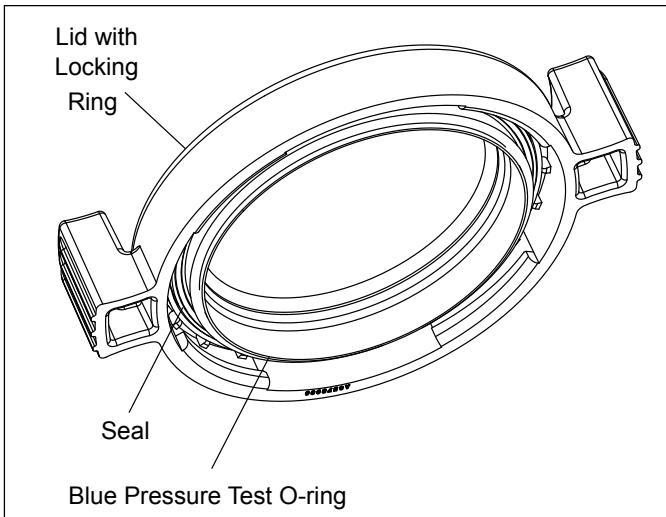
There is a risk of damage to the blue o-ring during re-installation. If you damage it when trying to re-install it, you will need to order a new blue pressure test o-ring before you begin conducting the pressure test.

These instructions describe the proper procedures for replacing, using, and disposing of the blue o-ring.

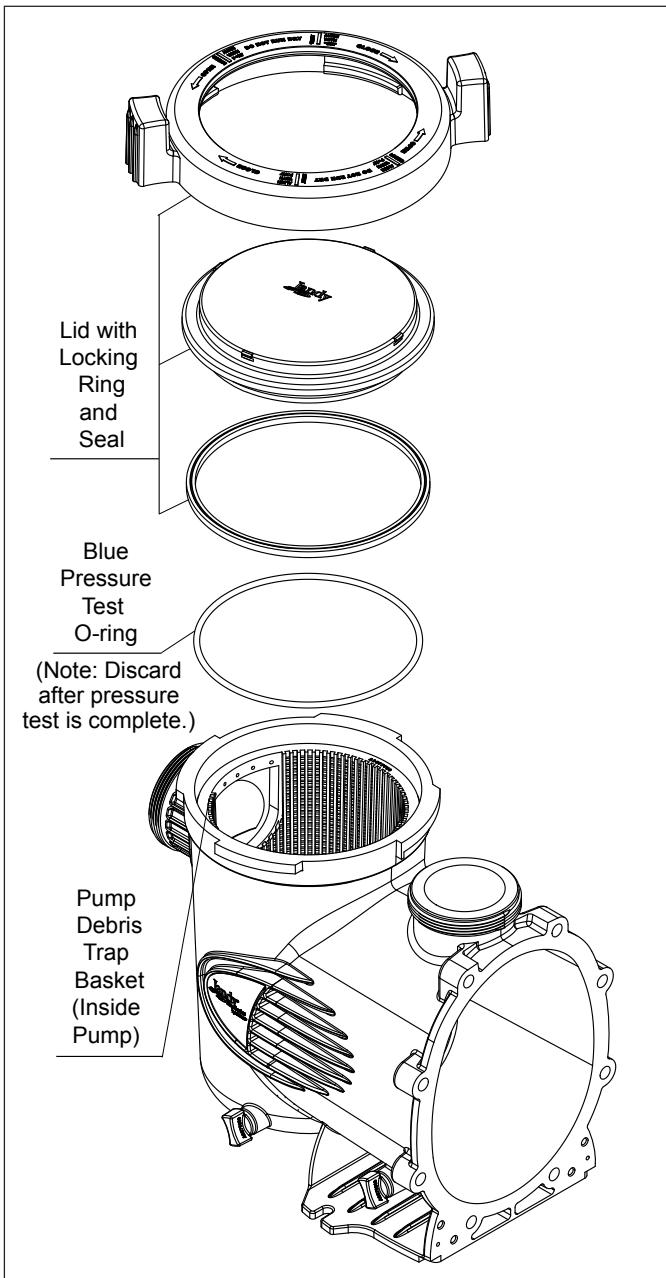
***These instructions must be followed exactly. Read through the instructions completely before starting the procedure.***

#### Remove Pump Lid

1. Make sure that the pump is turned off.
2. Make sure that the switch to the circuit breaker that powers the pump motor is turned off.
3. Make sure all necessary isolation valves are closed to prevent pool water from reaching the pump.
4. Following the markings on the locking ring, turn the ring counter-clockwise until the 'START' markings align with the ports.
5. Carefully remove the lid with locking ring.



**Figure 9. Blue Pressure Test O-ring in Lid Assembly**



**Figure 10. Exploded View of Pump**

## ⚠ WARNING

### ELECTRICAL SHOCK HAZARD

Turn off the pump and the main breaker in the pump electrical circuit before starting the procedure. Failure to comply may cause a shock hazard, resulting in severe personal injury or death.

## ⚠ WARNING

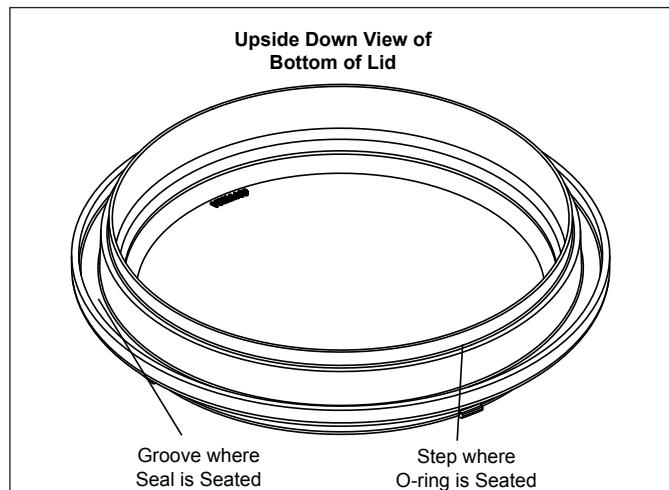
### ELECTRICAL SHOCK HAZARD

Due to the potential risk of fire, electric shock, or injuries to persons, Zodiac® Pumps must be installed in accordance with the National Electrical Code® (NEC®), all local electrical and safety codes, and the occupational Safety and Health Act (OSHA). Copies of the NEC may be ordered from the National Fire Protection Association, 470 Atlantic Ave., Boston, MA 02210, or from your local government inspection agency.

In Canada, Zodiac Pumps must be installed in accordance with the Canadian Electrical Code (CEC).

## Replace Blue O-ring

1. Turn the lid with locking ring upside down and place it on a stable surface.
2. Place the blue o-ring on the step located  $\frac{1}{4}$ " from the bottom of the lid. See Figure 11.
3. Make sure that the o-ring is properly seated. It helps to "place" the o-ring on the step rather than to "roll" it on. That prevents it from rolling off.
4. Carefully install the lid, making sure that the blue pressure test o-ring sits in the housing without "binding" or "rolling" off. Use soapy solution if needed for lubrication.
5. Following the markings on the locking ring, align 'START' markings with the ports and turn clockwise until 'LOCKED' markings align with the ports. ***Do not tighten past the 'LOCKED' marking.***



**Figure 11. Placement of Blue Pressure Test O-ring**

## 3.6 Conducting Pressure Test

### **⚠ WARNING**

When pressure testing a system with water, air is often trapped in the system during the filling process. This air will compress when the system is pressurized. Should the system fail, this trapped air can propel debris at a high speed and cause injury. Every effort to remove trapped air must be taken, including opening the bleed valve on the filter and loosening the pump filter basket lid while filling the pump.

### **⚠ WARNING**

Trapped air in the system can cause the filter lid to be blown off, which can result in death, serious injury, or property damage. Be sure all air is properly purged out of the system before operating. **DO NOT USE COMPRESSED AIR TO PRESSURE TEST OR CHECK FOR LEAKS.**

### **⚠ WARNING**

Do not pressure test above 35 PSI. Pressure testing must be done by a trained pool professional. Circulation equipment that is not tested properly might fail, which could result in severe injury or property damage.

### **⚠ WARNING**

When pressure testing the system with water, it is very important to make sure that the pump filter basket lid is completely secure.

1. Fill the system with water, using care to eliminate trapped air.
2. Pressurize the system with water to no more than **35 PSI**.
3. Close the valve to trap pressurized water in the system.
4. Observe the system for leaks and/or pressure decay.
5. If there are lid leaks, repeat Steps 1-3. For technical support, call Zodiac® Technical Support at 800.822.7933.
6. After successfully completing the test, discard the blue pressure test o-ring.

## 3.7 SVRS Testing

The SVRS unit must be tested for proper operation after installation and monthly, thereafter.

1. Using a ball valve, butterfly valve or sliding gate valve installed within 2 feet (0.6m) upstream from the pump, simulate entrapment by restricting water

flow. A test mat can also be used to cover the suction outlet to simulate an entrapment event.

2. After an entrapment is detected, the pump will shut down, automatically releasing the vacuum created by the pump.
3. After the pump shuts down, reopen/remove restriction to pump suction line. The pump will attempt to restart after a shutdown period of approximately four (4) minutes.
4. Repeat three (3) times to verify proper adjustment and operation.

## Section 4. Operation

### 4.1 Start-up

### **⚠ WARNING**

The SVRS feature on this pump is inactive up to ten (10) minutes after power up. During this period, the pump does not monitor blocked suction or discharge system condition. Keep bathers out of the pool when SVRS is not active, such as during the first ten (10) minutes after power up.

### **CAUTION**

Never run the pump without water. Running the pump "dry" for any length of time can cause severe damage to both the pump and motor and will void the warranty.

If this is a new pool installation, make sure all piping is clear of construction debris and has been properly pressure tested. The filter should be checked for proper installation, verifying that all connections and clamps are secure according to the manufacturer's recommendations.

### **⚠ WARNING**

To avoid risk of property damage, severe personal injury or death, verify that all power is turned off before starting this procedure.

1. Release all pressure from the system and open the filter pressure release valve.
2. Depending on the location of the pump, do one of the following:
  - If the pump is located below the water level of the pool, open the filter pressure release valve to prime the pump with water.
  - If the pump is located above the water level of the pool, remove the lid and fill the filter basket with water before starting the pump.
3. Prior to replacing the lid, check for debris around the lid o-ring seat. Debris around the lid o-ring seat will cause air to leak into the system and will make it difficult to prime the pump.

**NOTE** Do not use petroleum based lubricants or sealants on the lid o-ring.

4. **Hand-tighten** the lid to make an air tight seal. Do not use any tools to tighten the lid: **hand-tighten only**. Make sure all valves are open and the unions are tight.
5. Restore power to the pump. Then turn on the pump by following the instructions in the appropriate manual: ePump + SVRS Controller Owner's manual, H0412200, AquaLink® RS Owner's Manual, 6593, AquaLink PDA Owner's Manual, H0572300, or AquaLink Z4 Owner's Manual, H0386600.
6. Once all the air has left the filter, close the pressure release valve.
7. The pump should prime. The time it takes to prime will depend on the elevation and length of pipe used on the suction supply pipe. See *Installation Recommendations in Section 3* for proper elevation and pipe size.
8. If the pump does not prime and all the instructions to this point have been followed, check for a suction leak. If there is no leak, repeat Steps 2 through 7.
9. For technical assistance, call Zodiac® Technical Support at 800.822.7933.

## 4.2 SVRS Tripping

SVRS functionality of the variable speed pump detects full-body entrapment events by electrically monitoring the change of the load on the pump. If an entrapment event is detected, the motor shuts down, eliminating the vacuum created by the pump. Once an entrapment is sensed the motor goes into the fault state and stays there for 4 minutes. After 4 minutes, the fault is cleared automatically, and the motor is ready to run again.

# Section 5. Service and Maintenance

## 5.1 Routine Maintenance

Inspect the pump filter basket for debris by looking through the clear pump lid. Remove any debris, because as debris accumulates, it will begin to block the flow of water through the pump. Keep the filter basket clean to improve the performance of the pump.

1. Turn off the power to the pump. If the pump is located below the water level, close the isolation valves on the suction and discharge sides of the pump to prevent backflow of water.
2. Turn the lid's locking ring counter-clockwise until 'START' aligns with the ports. Carefully remove the lid. (You may use a tool for leverage.)

## CAUTION

A misaligned filter basket will cause the lid to be improperly seated, allowing an air leak, which could result in pump damage.

3. Lift the filter basket out of the pump.
4. Dispose of the debris and thoroughly clean the filter basket, making sure all the holes are open. Using a garden hose, spray the filter basket from the outside to help clear the holes. Remove any remaining debris by hand.
5. Replace the filter basket in the pump by aligning the opening with the suction pipe. If aligned properly, the filter basket will drop easily into place. **Do not force it into place.**
6. Remove the lid seal and remove debris around the lid seal seat, as this can allow air to leak into the system. Clean the lid seal and place it on the lid.
7. Replace the lid with locking ring. **Hand-tighten** the lid to make an air-tight seal. Do not use any tools to tighten the lid: **hand-tighten only**.
8. Verify that all valves have been returned to the proper position for normal operation.
9. Open the pressure release valve on the filter, and make sure it is clean and ready for operation.
10. Turn on the power to the pump. Once all the air has been evacuated from the filter, close the pressure release valve.

## 5.2 Winterizing the Pump

## CAUTION

The pump **must** be protected when freezing temperatures are expected. Allowing the pump to freeze will cause severe damage and void the warranty.

## CAUTION

***Do not use antifreeze solutions in the pool, spa, or hot tub systems!*** Antifreeze is highly toxic and may damage the circulation system. The only exception to this is Propylene Glycol. For more information, see your local pool/spa supply store or contact a qualified swimming pool service company.

1. Drain **all** water from the pump, system equipment, and piping.
2. Remove the two (2) drain plugs. Store the drain plugs in a safe location and reinstall them when the cold weather season is over. **Do not lose the o-rings.**

3. Keep the motor covered and dry. Do not cover the pump with plastic, because this will create condensation that will damage the pump.
- NOTE** Zodiac Pool Systems, Inc. recommends having a qualified service technician or electrician properly disconnect the electrical wiring at the switch or junction box. Once the power is removed, loosen the two (2) unions and store the pump indoors. For safety, and to prevent entry of contaminants, reinstall all conduit and terminal box covers.
4. When the system is reopened for operation, have a qualified technician or electrician make sure all piping, valves, wiring and equipment are in accordance with the manufacturer's recommendations. Pay close attention to the filter and electrical connections. Inspect all suction outlet fittings and covers and ensure they are not broken and are properly installed and secured.
5. The pump must be primed prior to starting. Refer to *Section 4.1, Start-up*.
6. The SVRS unit must be tested for proper operation. See section 3.7 for instructions.

## Section 6. Troubleshooting and Repair

To order or purchase parts for Zodiac® pumps, contact your nearest Zodiac dealer. If the Zodiac dealer cannot supply you with what you need, contact Zodiac Technical Support at 1.800.822.7933, or send an e-mail message to [productsupport@zodiac.com](mailto:productsupport@zodiac.com).

### 6.1 Service Technician Maintenance

#### **WARNING**

This pump must be serviced by a professional service technician qualified in pool/spa installation. The following procedures must be followed exactly. Improper installation and/or operation can create dangerous electrical hazards, which can cause high voltages to run through the electrical system. This can cause property damage, serious personal injury, and/or death. Improper installation and/or operation will void the warranty.

#### **WARNING**

Before servicing the pump, switch off the circuit breakers at the power source. Severe personal injury or death may occur if the pump starts while your hand is inside the pump.

### **Blocked Impeller**

1. Turn off the pump. Switch off the circuit breaker to the pump motor.
2. Remove the lid and filter basket.
3. Look inside the pump for debris. Remove any debris found inside.
4. Replace the filter basket and lid.
5. Switch on the circuit breaker to the pump motor.
6. Turn on the pump, and see if the problem is solved.
7. If the impeller is still blocked with debris and it is not possible to remove the debris using Steps 2 through 4, the pump will need to be disassembled in order to access the inlet and outlet of the impeller.

## 6.2 Troubleshooting

Symptom	Possible Cause/Solution
The cleaning/circulating system is not operating correctly.	<p>Verify that skimmer baskets, pump filter basket and other screens are clean. Clean as necessary.</p> <p>Check filter and clean as necessary.</p> <p>Check any valve setting positions. Adjust as necessary.</p> <p><b>NOTE</b> Multiple pieces of equipment operating at one time (for example, waterfalls, spa jets, and surface returns) will affect the proper operation of the cleaning system.</p> <p>Check the cleaning system manual to ensure that the system is adjusted according to the manufacturer's recommendations.</p>
Bubbles are present in the pump filter basket.	<p>Air is in the system. Check the pool or spa water level to ensure that it is at the proper level and air is not being drawn into the suction piping. If the water is at the normal level, turn off the pump. Turn the lid's locking ring counter-clockwise until 'START' aligns with the ports. Remove the lid and check for debris around the lid seal seat OR improper installation of the lid seal, as either condition will allow air to leak into the system. Clean the lid seal and replace it on the lid. Replace the lid on the pump housing. Align 'START' with the ports and turn the locking ring clockwise until 'LOCKED' aligns with the ports. <b>Hand-tighten</b> the lid to make an air-tight seal. <b>Do not use any tools to tighten the lid.</b> Turn the pump back on.</p>
Air leaks are still present.	<p>Check the suction side piping union. While the pump is running, try to tighten the union. If this does not stop the air leak, turn off the pump. Loosen both unions and slide the pump out of the way. Remove, clean, and re-install both union o-rings.</p> <p>Reposition the pump next to the piping and secure the union nuts to the pump. With clean union o-rings, hand-tightening of the unions should create a seal. If the unions still do not seal, gently tighten with a large pair of tongue-and-groove pliers.</p> <p><b>Do not over-tighten.</b></p>
There is no air in the system, but the pressure is still low.	<p>It is possible that debris is caught in the pump impeller. The pump impeller moves the water, and the vanes in the impeller can become blocked with debris. See <i>Section 6.2, Service Technician Maintenance</i>.</p>
There is no debris blocking the impeller <b>and</b> the pressure is still low.	<p>The pump impeller and diffuser are showing signs of normal wear. Have a qualified service technician check the impeller and diffuser and replace as necessary.</p> <p>If the pump is part of a relatively new installation, it could be an electrical problem. Contact a qualified service technician. Have the technician check for loose electrical connections and check the voltage at the pump motor while it is in operation. The voltage must be within 10% of the motor's data plate rating. If the voltage is not within 10%, contact a qualified electrician and/or the local power service provider.</p> <p>Pump seal is leaking air. Have a qualified service technician replace the seal.</p>
The pump is leaking water between the motor and pump body.	<p>This is caused by a damaged or failed mechanical seal. This is a two-part replacement process. The mechanical seal must be replaced as a set with the Mechanical Seal Replacement Kit. (R0479400)</p>
The pump gets hot and shuts off periodically.	<p>Make sure that there is adequate room around the motor to circulate air and keep the motor cool. Have a qualified electrician check for loose connections and check the voltage at the pump motor while it is in operation. The voltage must be within 10% of the motor's data plate rating. If the voltage is not within 10%, contact a qualified electrician and/or the local power service provider.</p>

Symptom	Possible Cause/Solution
Pump will not start.	No power to pump. Make sure pump is properly connected to high voltage. See <i>Section 3.2, Electrical Installation</i> , in this manual.
	Improper low-voltage wiring. Check low-voltage wiring between pump and controller. Correct if necessary. See <i>Section 3.2, Electrical Installation</i> , in this manual.
	Improper pump address setting. Make sure that ePump + SVRS dip switches 3 and 4 are set properly for the installation. Both should be OFF for use with ePump + SVRS JEP-R controller or set to the proper address when connected to an AquaLink® RS controller, an AquaLink PDA or an AquaLink Z4. See <i>Section 3.3, ePump + SVRS Dip Switch Settings</i> , in this manual.
	Fault condition exists. View fault message on controller and correct fault before proceeding. If unsure how to correct fault, contact Zodiac® Technical Support at 800.822.7933.
ePump + SVRS controller LCD is not displaying information	Incorrect dip switch setting. Make sure ePump + SVRS dip switches 1 and 2 are both ON. See <i>Section 3.3, ePump + SVRS Dip Switch Settings</i> , in this manual.
	Improper low-voltage wiring. Check low-voltage wiring between pump and controller. Correct if necessary. See <i>Section 3.2, Electrical Installation</i> , in this manual.
Controller displays "Pump not connected".	Improper low-voltage wiring. Check low-voltage wiring between pump and controller. Correct if necessary. See <i>Section 3.2, Electrical Installation</i> , in this manual.
	Improper pump address set. Ensure ePump + SVRS dip switches 3 and 4 are set properly for the installation. Both should be OFF for use with ePump + SVRS JEP-R controller or set to the proper address when connected to an AquaLink RS controller, an AquaLink PDA or an AquaLink Z4. See <i>Section 3.3, ePump + SVRS Dip Switch Settings</i> , in this manual.
Fault message appears on controller display.	Fault condition exists. View fault message on controller and correct fault before proceeding. If unsure how to correct fault, contact Zodiac Technical Support at 800.822.7933.
Pump Shutdown	Depending on the individual pool installation, it is possible to experience SVRS-related shut off of the Jandy ePump + SVRS pump, resulting from events other than SVRS blockages. Some sources of shut offs may include: <ol style="list-style-type: none"> <li>1. Air entrainment in the suction flow, even for a few seconds. Air entrainment may result from a suction cleaner breaking the pool surface, a whirlpool in a skimmer, or any other condition that allows air to be drawn into the suction flow.</li> <li>2. Attachment or disconnection of a pool vacuum hose, while the pump is running. If this occurs, attach the pool vacuum hose with the pump off.</li> <li>3. Inability of the pump to achieve normal flow during priming. Upon start, if the pump does not sense normal flow, the pump will remain in a priming condition for approximately 10 minutes, and will then shut off. The pump will remain off for approximately 10 minutes, and attempt a restart. <b>While in priming condition, SVRS functions will be disabled.</b> After the pump senses a normal flow condition, SVRS functions are enabled.</li> </ol>

## Section 7. Product Specifications and Technical Data

### 7.1 Replacement Parts List and Exploded View

To order or purchase parts for Jandy Pro Series pumps, contact your nearest Zodiac® dealer. You can also contact Zodiac Technical Support at 800.822.7933.

Key No.	Description	Part No.
1	Motor w/Drive, ePump + SVRS Series	R0562205
2	Backplate, Pump, SHP, PHP/MHP/JEP	R0445200
3	Impeller, Assembly, SHP, PHP, JEP	R0445305
4	Diffuser with O-ring and Hardware	R0445400
5	Mechanical Seals (Carbon and Ceramic)	R0479400
6	Body, Pump	R0445601
7	Motor Mounting Foot Assembly, SHP	R0445700
8	Locking Ring (With Lid and O-ring)	R0445800
9	Filter Basket	R0445900
10	Plug, Drain (Set of 2)	R0446000
11	Tail Piece (2" by 2½") with Union Nut and O-ring (Set of 2)	R0446101
12	Seal, Lid	R0446200
13	Blue Pressure Test O-ring	R0479000
14	O-ring, Backplate	R0446300
15	O-ring, Tail Piece (Set of 2)	R0446400
16	Diffuser/Impeller Hardware Set	R0446500
17	Backplate Hardware with Set of 8 Bolts and Washers	R0446600
18	Motor Hardware with Set of 4 Bolts and Washers	R0446700
19	Screws, Motor Mounting Foot (Set of 2)	R0446800
20	Cover, Fan, w/Hardware, JEP Series (Gen II)	R0562400
21	Connector, Speed Drive, ePump (4-Pin Connector) (Not Shown)	R0660900
22	Data Cable Bulkhead Fitting	R0501100
23	Screw, Electrical Box (Set of 2)	R0562600
24	Screw with O-ring, Self-Sealing	R0515400
25	Cable, RS485, Replacement Kit	R0535100

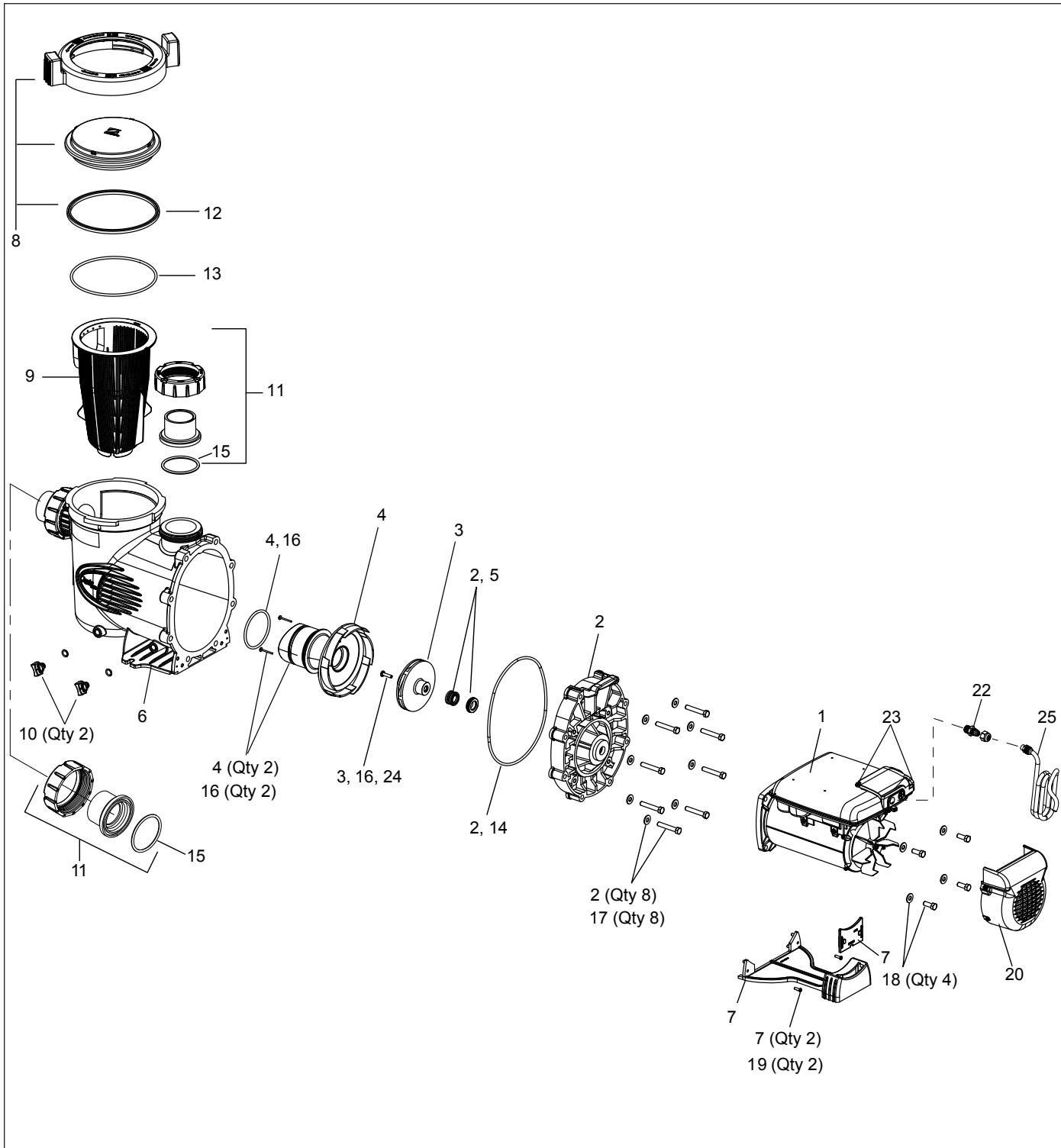
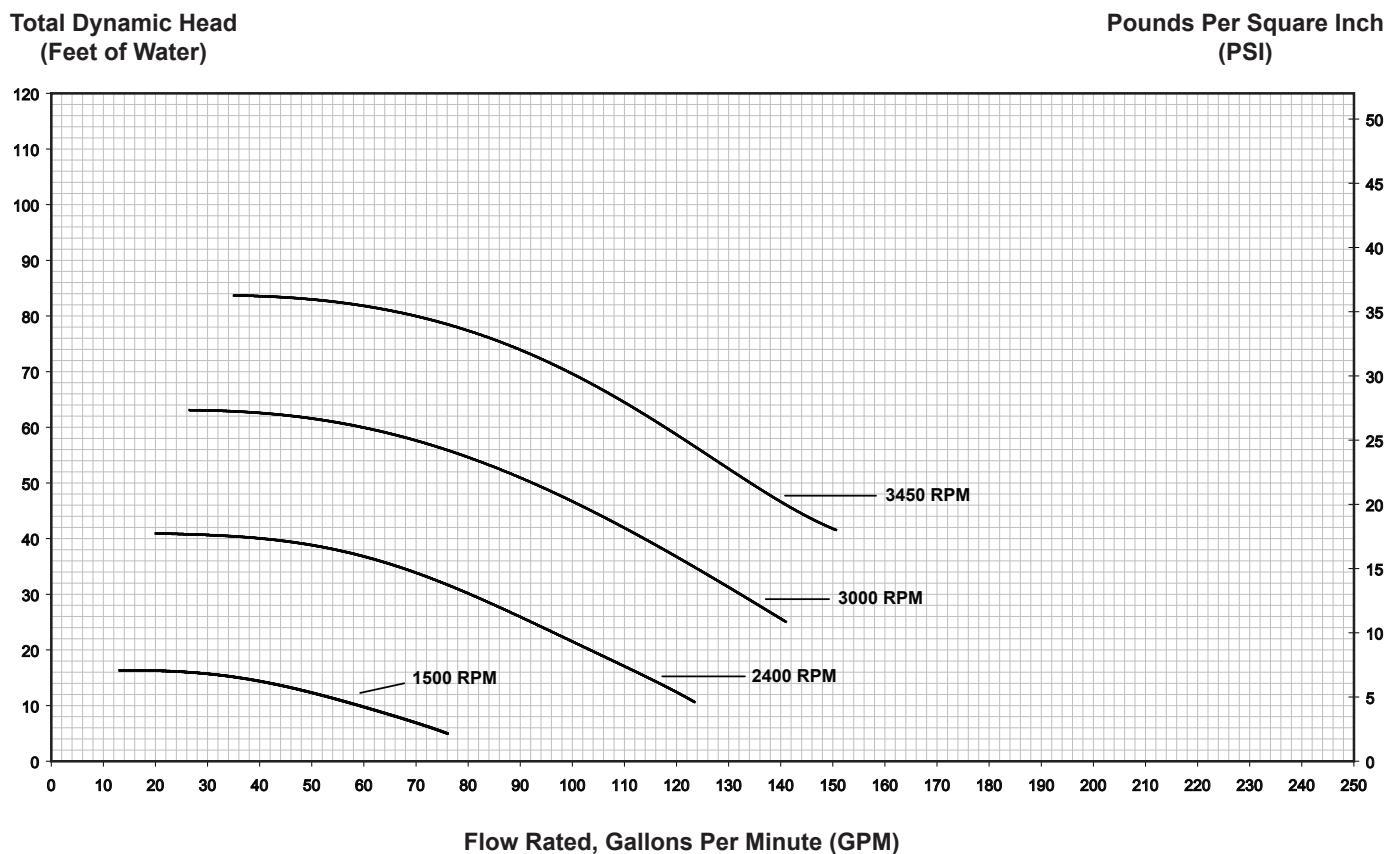


Figure 9. ePump + SVRS Exploded View

## 7.2 Performance Curves

### ePump + SVRS Pump Curves

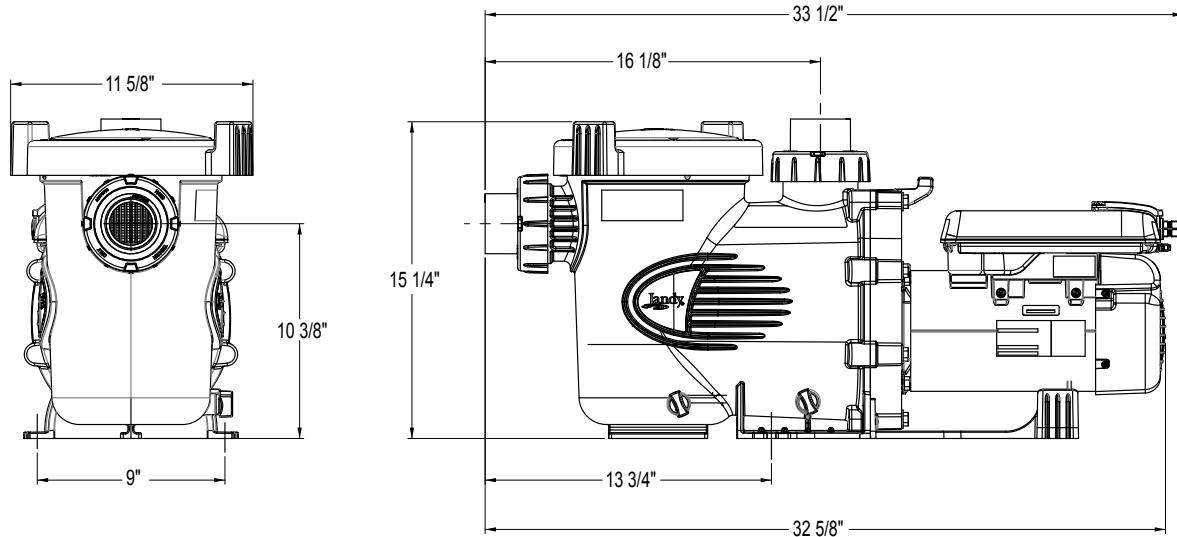


## 7.3 Physical and Operational Specifications

### Specifications

Model No.	HP	Voltage	Watts	Pipe Size	Carton Weight	Overall Length
JEP2.0SVRS	0.25 - 2.7	230 VAC	2,400 W	2½ - 3"	71.5 lbs.	33½"

### Dimensions



**NOTE** When installing a pump, leave a minimum of 2 feet of clearance above the pump for removal of the filter basket.



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No. 108



Certified to  
NSF/ANSI Standard 50

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